Mr. R. Joe Speicher
Carriage, Inc.
P.O. Box 246
Millersburg, IN 46543

Re: **039-11304-00456**
Significant Source Modification to:
Part 70 permit No.: **T 039-6326-00456**

Dear Mr. Speicher:

Carriage, Inc. was issued Part 70 operating permit **T 039-11304-00456** on February 10, 1999 for a recreational vehicle and Class C motor home manufacturing plant. An application to modify the source was received on December 28, 1999. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

(a) Building 18
One (1) woodworking operation, consisting of various woodworking tools, known as WW, equipped with a cyclone and baghouse connected in series, exhausted inside the building, capacity: 800 pounds of wood per hour.

(b) Building 18A
Three (3) surface coating booths, known as SC1, SC2 and SC3, equipped with six (6) HVLP spray guns and dry filters for particulate overspray control, exhausted to stacks F1, F2 and F3, respectively, capacity: 44.05 cabinet doors per hour, each.

(c) Four (2) natural gas-fired boilers, known as H1 through H4, rated at 0.15 million British thermal units per hour, each. (Insignificant Activity)

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The proposed operating conditions applicable to these emission units are attached to this Source Modification approval. These proposed operating conditions shall be incorporated into the Part 70 operating permit as an significant permit modification in accordance with 326 IAC 2-7-10.5(l)(1) and 326 IAC 2-7-11.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter contact Paula M. Miano, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
PMM/MES
cc: File - Elkhart County
U.S. EPA, Region V
Northern Regional Office
Air Compliance Section Inspector - Greg Wingstrom
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

PART 70 OPERATING PERMIT
OFFICE OF AIR MANAGEMENT

Carriage, Inc.
210 Wabash Street
Millersburg, Indiana 46543

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

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Janet G. McCabe, Assistant Commissioner
Office of Air Management</td><td>Issuance Date: February 10, 1999</td></tr>
<tr><td>First Significant Source Modification:
039-11304-00456</td><td>Pages Affected: 4, 4a, 6, 7, 7a, 35a-35f, 36-39, 44a</td></tr>
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Paul Dubenetzky, Branch Chief
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(c) 0.75 units per hour in Building 7;
(d) 0.25 units per hour in Building 9;
(e) 0.25 units per hour in Building 22; and

(5) one (1) wood waste fired boiler in Building 20, with a fuel consumption rate of 750 pounds per hour and a rated capacity of 4.0 mmBtu/hr, equipped with a single 42" diameter cyclone for particulate matter emission control, and exhausting through one (1) stack, identified as #20.

Building 18

(6) One (1) woodworking operation, consisting of various woodworking tools, known as WW, equipped with a cyclone and baghouse connected in series, exhausted inside the building, capacity: 800 pounds of wood per hour.

Building 18A

(7) Three (3) surface coating booths, known as SC1, SC2 and SC3, equipped with six (6) HVLP spray guns and dry filters for particulate overspray control, exhausted to stacks F1, F2 and F3, respectively, capacity: 44.05 cabinet doors per hour, each.

C & K Fiberglass Plastics, Inc. (Plant #2)

Building 14

(1) one (1) air-assisted airless resin laminate coating application booth with a maximum capacity of 0.66 units per hour, using a tandem dry filter as overspray particulate matter control, and exhausting through two (2) stacks, identified as F1 and F2;

(2) one (1) air-assisted airless gel coat coating application booth with a maximum capacity of 0.66 units per hour, using a tandem dry filter as overspray particulate matter control, and exhausting through two (2) stacks, identified as F3 and F4;

Building 15

(3) one (1) air-assisted airless resin laminate coating application booth with a maximum capacity of 0.80 units per hour, using a tandem dry filter as overspray particulate matter control, and exhausting through two (2) stacks, identified as F8 and F9;

(4) one (1) air-assisted airless gel coat coating application booth with a maximum capacity of 0.80 units per hour, using a tandem dry filter as overspray particulate matter control, and exhausting through two (2) stacks, identified as F6 and F7;

Building 16

(5) one (1) air-assisted airless resin laminate coating application booth with a maximum capacity of 0.80 units per hour, using a tandem dry filter as overspray particulate matter control, and exhausting through two (2) stacks, identified as F10 and F11;

(6) one (1) resin vacuum laminate coating application booth using roll coating system with a maximum capacity of 0.80 units per hour, and exhausting through three (3) stacks, identified as F15, F16 and F17; and

(7) one (1) air-assisted airless gel coat coating application booth with a maximum capacity of 0.80 units per hour, using a tandem dry filter as overspray particulate matter control, and exhausting through two (2) stacks, identified as F12 and F13.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(1) two (2) boilers in Building 5 each rated at 0.85 and 0.3 mmBtu/hr, and four (4) boilers, known as 1 through H4, rated at 0.15 million British thermal units per hour, each;

(2) degreasing operations that do not exceed 145 gallons per 12 months;

(3) the following woodworking activities with particulate matter emissions equal to or below insignificant threshold of 5 pounds per hour:

(a) one (1) cyclone dust collection system controlling two (2) chop saws and one (1) drill press in Building 3;

(b) one (1) cyclone dust collection system controlling three (3) chop saws, one (1) table saw, two (2) routers, two (2) band saws, two (2) radial saws, one (1) shaper, one (1) belt sander, and one (1) drill press in Building 7;

(c) one (1) cyclone and baghouse dust collection system controlling nine (9) chop saws, three (3) band saws, one (1) sander, and one (1) mitre saw in Building 9;

(d) one (1) cyclone dust collection system controlling two (2) chop saws, one (1) radial arm saw, and one (1) band saw in Building 12;

(e) one (1) cyclone and baghouse dust collection system controlling two (2) chop saws, one (1) radial arm saw, one (1) belt sander, one (1) grinder, one (1) router, one (1) drill press, one (1) band saw, and one (1) table saw in Building 22;

(4) the following welding activities, in Building 17, with particulate matter emissions equal to or below insignificant threshold of 5 pounds per hour:

(a) five (5) stick welding stations using carbon electrodes with a maximum consumption rate of 15 electrodes per hour;

(b) three (3) metal inert Gas (MIG) steel welding stations using carbon AWS A5.18 wire with a maximum consumption rate of 1.0 units per hour;

(c) five (5) MIG aluminum welding stations using type ER 4043 (aluminum) wire with a maximum consumption rate of 1.25 units per hour; and

(5) three (3) natural gas-fired make-up air units in Plant #2, identified as H1A, H2A and H3A, each with a heat input rate of 3.025, 3.025 and 3.85 mmBtu/hr, respectively.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(1) It is a major source, as defined in 326 IAC 2-7-1(22).

(2) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Building 18
(6) One (1) woodworking operation, located in building 18, consisting of various woodworking tools, known as WW, equipped with a cyclone and baghouse connected in series, exhausted inside the building, capacity: 800 pounds of wood per hour.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)

D.3.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the wood-working operations shall not exceed 2.22 pounds per hour when operating at a process weight rate of 800 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Compliance Determination Requirements

D.3.2 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.3.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.3.3 Particulate Matter (PM)

The cyclone and baghouse connected in series for PM control shall be in operation at all times when the woodworking operation is operating.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.4 Visible Emissions Notations

(a) Daily visible emission notations of the cyclone and baghouse exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.3.5 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the woodworking operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.3.6 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.3.7 Cyclone Inspections

An inspection shall be performed each calender quarter of all cyclones controlling the woodworking operation when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors.

D.3.8 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.9 Record Keeping Requirements

(a) To document compliance with Condition D.3.4, the Permittee shall maintain records of daily visible emission notations of the cyclone and baghouse exhaust when vented to the atmosphere.

(b) To document compliance with Conditions D.3.5 and D.3.7, the Permittee shall maintain records of the results of the inspections required under Condition D.3.5 and D.3.7 and the dates the vents are redirected.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

Building 18A
(7) Three (3) surface coating booths, located in building 18A, known as SC1, SC2 and SC3, equipped with six (6) HVLP spray guns and dry filters for particulate overspray control, exhausted to stacks F1, F2 and F3, respectively, capacity: 44.05 cabinet doors per hour, each.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

(a) Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture and cabinets in Building 18A shall utilize one of the following application methods:

Airless Spray Application	Air Assisted Airless Spray Application
Electrostatic Spray Application	Electrostatic Bell or Disc Application
Heated Airless Spray Application	Roller Coating
Brush or Wipe Application	Dip-and-Drain Application

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

(b) The input of VOC to SC1, SC2 and SC3, shall be limited to less than twenty-five 25.0 tons of VOC, including coatings, dilution solvents, and cleaning solvents, per twelve (12) consecutive month period.

D.4.2 New Source Toxics Control [326 IAC 2-4.1-1]

(a) The input VOC is limited to less than 25.0 tons per year. Therefore, the source will not emit ten (10) tons per year of a single HAP or twenty-five (25) tons per year of any combination of HAPs. Thus, the requirements of 326 IAC 2-4.1-1 do not apply.

(b) Any change or modification that increases HAP emissions to greater than ten (10) tons per year and or twenty-five (25) tons per year must receive prior approval from OAM, IDEM.

D.4.3 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) overspray from the spray booths shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The source will be in compliance with the requirement by using air filters at all times when the spray booths are in operation to control overspray emissions.

D.4.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

Compliance Determination Requirements

D.4.5 Testing Requirements [326 IAC 2-7-6(1)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the VOC and PM limits specified in Conditions D.4.1, D.4.2 and D.4.3 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.4.6 Volatile Organic Compounds (VOC)

Compliance with the VOC usage limitation contained in Conditions D.4.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAM reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.4.7 VOC Emissions

Compliance with Condition D.4.1 shall be demonstrated at the end of each month based on the total volatile organic compound usage for the most recent month.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.4.8 Particulate Matter (PM)

The dry filters for PM control shall be in operation at all times when the surface coating is in operation.

D.4.9 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the spray booth stacks while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.4.10 Record Keeping Requirements

(a) To document compliance with Condition D.4.1, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.4.1

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The cleanup solvent usage for each month;

(4) The total VOC usage for each month; and

(5) The weight of VOCs emitted for each compliance period.

(b) To document compliance with Condition D.4.9, the Permittee shall maintain a log of daily overspray observations, daily and weekly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.4.11 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.4.1(b) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]
Section D.3 is for the following insignificant activities (all the activities are in Plant #1), as defined in 326 IAC 2-7-1(21):

(1) two (2) boilers in Building 5 each rated at 0.85 and 0.3 mmBtu/hr, four (4) boilers in Building 22 each rated at 0.5 mmBtu/hr and four (4) boilers, known as H1 through H4, rated at 0.15 million British thermal units per hour, each;
(2) degreasing operations that do not exceed 145 gallons per 12 months;
(3) the following woodworking activities with particulate matter emissions equal to or below insignificant threshold of 5 pounds per hour:
  (a) one (1) cyclone dust collection system controlling two (2) chop saws and one (1) drill press in Building 3;
  (b) one (1) cyclone dust collection system controlling three (3) chop saws, one (1) table saw, two (2) routers, two (2) band saws, two (2) radial saws, one (1) shaper, one (1) belt sander, and one (1) drill press in Building 7;
  (c) one (1) cyclone and baghouse dust collection system controlling nine (9) chop saws, three (3) band saws, one (1) sander, and one (1) mitre saw in Building 9;
  (d) one (1) cyclone dust collection system controlling two (2) chop saws, one (1) radial arm saw, and one (1) band saw in Building 12;
  (e) one (1) cyclone and baghouse dust collection system controlling two (2) chop saws, one (1) radial arm saw, one (1) belt sander, one (1) grinder, one (1) router, one (1) drill press, one (1) band saw, and one (1) table saw in Building 22;
(4) the following welding activities, in Building 17, with particulate matter emissions equal to or below insignificant threshold of 5 pounds per hour:
  (a) five (5) stick welding stations using carbon electrodes with a maximum consumption rate of 15 electrodes per hour;
  (b) three (3) metal inert Gas (MIG) steel welding stations using carbon AWS A5.18 wire with a maximum consumption rate of 1.0 units per hour;
  (c) five (5) MIG aluminum welding stations using type ER 4043 (aluminum) wire with a maximum consumption rate of 1.25 units per hour.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Particulate Matter (PM) [326 IAC 6-2-3]
Pursuant to 326 IAC 6-2-3 (Particulate Matter Emission Limitations for Sources of Indirect Heating, the PM emissions from the six (6) boilers in Building 5 and Building 22 and the four (4) boilers known as H1-H4, shall be limited to 0.6 pounds per million British thermal units heat input.

D.5.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]
Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for Degreasers at the source shall:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a matter that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.5.3 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for Degreasers at the source, Carriage, Inc. shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9^{O}C) (one hundred twenty degrees Fahrenheit (120^{O}F)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), for degreasers constructed after July 1, 1990, the owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

D.5.4 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) emissions from woodworking and welding operations are limited as follows:

(a) the emissions from the woodworking operations in Buildings 3, 7, 9, 12 and 22 shall be limited to 0.55, 1.62, 2.58, 1.02 and 1.62 pounds per hour, respectively. The source will be in compliance with these limitations by operating dust collection system at all times when woodworking is in operation.

(b) the emissions from the welding activities in Building 17 shall be limited to 5.0 pounds per hour.

D.5.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Determination Requirements

D.5.6 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limits specified in Conditions D.5.1 and D.5.4 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.5.7 Visible Emissions Notations

(a) Daily visible emission notations of the control device exhausts for woodworking operations in Buildings 3, 7, 9, 12 and 22 shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.5.8 Record Keeping Requirements

(a) To document compliance with Condition D.5.7, the Permittee shall maintain records of daily visible emission notations of the woodworking operations stack exhausts.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Carriage, Inc
Source Address: 210 Wabash Street, Millersburg, IN 46543
Mailing Address: P. O. Box 246, Millersburg, IN 46543
Part 70 Permit No.: T039-6326-00456
Facility: SC1, SC2 and SC3
Parameter: total VOC input
Limit: less than twenty-five (25) tons of VOC per twelve (12) consecutive month period

YEAR: _____

Month	VOC (tons) This Month	VOC (tons) Previous 11 Months	VOC (tons) 12 Month Total

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Part 70 Significant Source Modification

Source Background and Description

Source Name:	**Carriage, Inc.**
Source Location:	**210 Wabash Street, Millersburg, Indiana 46543**
County:	**Elkhart**
SIC Code:	**3792**
Operation Permit No.:	**T 039-6326-00456**
Operation Permit Issuance Date:	**February 10, 1999**
Significant Source Modification No.:	**039-11304-00456**
Permit Reviewer:	**Paula M. Miano/MES**

The Office of Air Management (OAM) has reviewed a modification application from Carriage, Inc. relating to the construction of the following emission units and pollution control devices:

(a) Building 18
One (1) woodworking operation, consisting of various woodworking tools, known as WW, equipped with a cyclone and baghouse connected in series, exhausted inside the building, capacity: 800 pounds of wood per hour.

(b) Building 18A
Three (3) surface coating booths, known as SC1, SC2 and SC3, equipped with six (6) HVLP spray guns and dry filters for particulate overspray control, exhausted to stacks F1, F2 and F3, respectively, capacity: 44.05 cabinet doors per hour, each.

(c) Four (2) natural gas-fired boilers, known as H1 through H4, rated at 0.15 million British thermal units per hour, each. (Insignificant Activity)

History

On December 17, 1999, Carriage, Inc. purchased Yoder Woods. On December 28, 1999, Carriage, Inc. submitted an application to the OAM requesting to add additional surface coating booths and woodworking equipment to their existing plant. This equipment is currently in operation. Carriage, Inc. was issued a Part 70 permit on February 10, 1999.

Source Definition

This recreational vehicle manufacturing company consists of two (2) plants:

(a) Plant #1 (Carriage, Inc.), the primary operation (includes the operations in Buildings 3, 5, 6, 7, 8, 9, 12, 17, 17A and 22, as described in CP 039-3303-00205, CP 039-4712-00205 and CP 039-8817-00456), is located at 210 Wabash Street, Millersburg, Indiana, and

(b) Plant #2 (C & K Fiberglass Plastics, Inc.), the supporting operation (includes the operations in Buildings 14, 15 and 16 as described in CP 039-2926-00179), is located at 200 Wabash Street, Millersburg, Indiana.

Since the two (2) plants are located in contiguous properties, and are under the common control of Carriage, Inc., they will be considered one (1) source. Therefore, the term "source" in the Part 70 documents refers to both Carriage, Inc. and C & K Fiberglass Plastics, Inc. as one source.

Enforcement Issue

(a) IDEM is aware that equipment has been operated prior to receipt of the proper permit.

(b) IDEM is reviewing this matter and will take appropriate action. This proposed approval is intended to satisfy the requirements of the construction permit rules.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
F1	Spray Booth	20	2	7,500	Ambient
F2	Spray Booth	20	3	10,000	Ambient
F3	Spray Booth	20	3	10,000	Ambient

Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on December 28, 2000. Additional information was received on March 14, 2000.

Emission Calculations

See pages 1-3 of 3 of Appendix A of this document for detailed emissions calculations.

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	**Potential To Emit** (tons/year)
PM	869
PM_{10}	869
SO_2	0.00

Pollutant	Potential To Emit (tons/year)
VOC	66.7
CO	0.00
NO_X	0.00

HAPs	Potential To Emit (tons/year)
Xylene	1.12
Toluene	6.68
Formaldehyde	0.037
Benzene	4.12
Hexane	0.714
Glycol Ethers	1.60
Methanol	0.714
TOTAL	15.0

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7.10.5(f)(4).

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM_{10}	attainment
SO_2	attainment
NO_2	attainment
Ozone	maintenance
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as maintenance or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Elkart County has been classified as attainment or unclassifiable for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status - **Existing Source**

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	**Emissions** (tons/year)
PM	56.7
PM_{10}	56.7
SO_2	3.2
VOC	225
CO	13.6
NO_X	14.0

(a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.

(b) These emissions are based upon Page 2 of 2 of Appendix A from T 039-6326-00456.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

	Potential to Emit (tons/year)						
Process/Facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPs
Proposed Modification	1.18	1.18	0.00	<25.0	0.00	0.00	15.0
PSD Threshold Level	250	250	250	250	250	250	-

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD threshold levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability

(a) The four (4) natural gas-fired boilers, known as H1 through H4 are not subject to the requirements of the New Source Performance Standard, 40 CFR 60.40c, Subpart Dc because they are all rated at less than 10.0 million British thermal units per hour.

(b) The three (3) surface coating booths, known as SC1, SC2 and SC3 are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), Subpart JJ because the source cuts the wood and assembles the cabinet front, which is sent to an outside vendor for sanding and finishing. The finished cabinets are then brought back for installation. Pursuant to 40 CFR §63.801(a), *Definitions*, this operation is not a wood furniture manufacturing operation.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1-1 (New Source Toxics Control)

The source will not emit ten (10) tons per year of a single HAP or twenty-five (25) tons per year of any combination of HAPs. Therefore, the requirements of 326 IAC 2-4.1-1 are not applicable.

326 IAC 2-2 (Prevention of Significant Deterioration)

The source has agreed to limit the VOC emissions from this modification to less than 25 tons per year. This will make the VOC emissions from the entire source less than 250 tons per year. Therefore, this source will be considered a minor source pursuant to this rule.

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the woodworking operations shall be limited to 2.22 pounds of hour with a process weight rate of 800 pounds per hour. The limit was calculated by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The cyclone and baghouse connected in series shall be in operation at all times the woodworking operation is in operation, in order to comply with this limit.

326 IAC 8-2-12 (Surface coating emission limitations: wood furniture and cabinet coating)

The surface coating operations are subject to the requirements of 326 IAC 8-2-12 since the coatings are being applied to wood furniture. Pursuant to 326 IAC 8-2-12, the HVLP spray applicators used in the three (3) spray booths for all production work comply with this rule.

State Rule Applicability - Insignificant Activities

326 IAC 6-2-4 (Particulate Emissions Limitations for Facilities Constructed after September 21, 1983)

The four (4) boilers, known as H1 through H4, rated at 0.60 million British thermal units per hour, total, constructed after September 21, 1983, must comply with the requirements of 326 IAC 6-2-4. The emission limitations are based on the following equation is given in 326 IAC 6-2-4:

$$Pt = 1.09/Q^{0.26}$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

For the four (4) boilers, known as H1-H4:

The total heat input capacity of the four (4) boilers is 0.6 million British thermal units per hour. There are six (6) boilers rated at 7.15 million British thermal units per hour, total, in operation.

$$Pt = 1.09/(7.75)^{0.26} = 0.64 \text{ lb/MMBtu heat input}$$

For Q less then 10 million British thermal unit per hour, Pt shall not exceed 0.6 pounds per million British thermal units.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this modification are as follows:

(a) The cyclone and baghouse connected in series, C1, has applicable compliance monitoring conditions as specified below:

(1) Daily visible emissions notations of the baghouse shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously “normal” means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

(2) The Permittee shall record the total static pressure drop across the baghouse, C1, controlling the woodworking operation, at least once daily when the wood working operation is in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 5.0 to 10.0 inches of water or a range established during the latest stack test. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when the pressure reading is outside of the above mentioned range for any one reading.

the cyclone and baghouse connected in series for woodworking operations must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-7 (Part 70).

(b) SC1, SC2 and SC3 have applicable compliance monitoring conditions as specified below:

(1) Daily visible emissions notations of SC1, SC2 and SC3 shall be performed during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously “normal” means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

(2) The dry filters shall be in operation at all times that SC1, SC2 and SC3 are in operation.

These monitoring conditions are necessary because the dry filters for the spray booth must operate properly to ensure compliance with) 326 IAC 6-3-2.

Proposed Changes

The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language appears in **bold**):

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices in Carriage, Inc. (Plant #1) and C & K Fiberglass Plastics, Inc. (Plant #2):

Carriage, Inc. (Plant #1)

Building 8

(1) one (1) airless paint spray booth with a maximum capacity of 0.5 units per hour, using dry filters as overspray particulate matter control, and exhausting through one (1) stack, identified as #92;

Building 12

(2) one (1) airless counter top assembly adhesive spray booth, with a maximum capacity of coating 10 units per hour, using dry filters as overspray particulate matter control, and exhausting through two (2) stacks, identified as #90 and #91;

Building 17A

(3) one (1) high pressure air-assisted paint spray booth, capable of coating 2.0 units of metal frame per hour, using dry filter banks as overspray particulate matter control and exhausting at one (1) stack, identified as 17A;

(4) miscellaneous VOC containing aerosol spray adhesives and handwipe solvents with following maximum coating rates:

(a) 0.25 units per hour in Building 3;

(b) 0.25 units per hour in Building 5;

(c) 0.75 units per hour in Building 7;

(d) 0.25 units per hour in Building 9;

(e) 0.25 units per hour in Building 22; and

(5) one (1) wood waste fired boiler in Building 20, with a fuel consumption rate of 750 pounds per hour and a rated capacity of 4.0 mmBtu/hr, equipped with a single 42" diameter cyclone for particulate matter emission control, and exhausting through one (1) stack, identified as #20.

Building 18

(6) One (1) woodworking operation, consisting of various woodworking tools, known as WW, equipped with a cyclone and baghouse connected in series, exhausted inside the building, capacity: 800 pounds of wood per hour.

Building 18A

(7) Three (3) surface coating booths, known as SC1, SC2 and SC3, equipped with six (6) HVLP spray guns and dry filters for particulate overspray control, exhausted to stacks F1, F2 and F3, respectively, capacity: 44.05 cabinet doors per hour, each.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(1) two (2) boilers in Building 5 each rated at 0.85 and 0.3 mmBtu/hr, ~~and~~ four (4) boilers in Building 22 each rated at 0.5 mmBtu/hr **and four (4) boilers, known as 1 through H4, rated at 0.15 million British thermal units per hour, each**;

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Building 18

(6) One (1) woodworking operation, located in building 18, consisting of various woodworking tools, known as WW, equipped with a cyclone and baghouse connected in series, exhausted inside the building, capacity: 800 pounds of wood per hour.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)

D.3.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the woodworking operations shall not exceed 2.22 pounds per hour when operating at a process weight rate of 800 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Compliance Determination Requirements

D.3.2 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.3.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.3.3 Particulate Matter (PM)

The cyclone and baghouse connected in series for PM control shall be in operation at all times when the woodworking operation is operating.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.4 Visible Emissions Notations

(a) Daily visible emission notations of the cyclone and baghouse exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.3.5 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the woodworking operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.3.6 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.3.7 Cyclone Inspections

An inspection shall be performed each calender quarter of all cyclones controlling the wood-working operation when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months there-after. Inspections are optional when venting to the indoors.

D.3.8 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.9 Record Keeping Requirements

(a) To document compliance with Condition D.3.4, the Permittee shall maintain records of daily visible emission notations of the cyclone and baghouse exhaust when vented to the atmosphere.

(b) To document compliance with Conditions D.3.5 and D.3.7, the Permittee shall maintain records of the results of the inspections required under Condition D.3.5 and D.3.7 and the dates the vents are redirected.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]
Building 18A
(7) Three (3) surface coating booths, located in building 18A, known as SC1, SC2 and SC3, equipped with six (6) HVLP spray guns and dry filters for particulate overspray control, exhausted to stacks F1, F2 and F3, respectively, capacity: 44.05 cabinet doors per hour, each.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-12]

(a) Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the surface coating applied to wood furniture and cabinets in Building 18A shall utilize one of the following application methods:

Airless Spray Application	**Air Assisted Airless Spray Application**
Electrostatic Spray Application	**Electrostatic Bell or Disc Application**
Heated Airless Spray Application	**Roller Coating**
Brush or Wipe Application	**Dip-and-Drain Application**

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

(b) The input of VOC to SC1, SC2 and SC3, shall be limited to less than twenty-five 25.0 tons of VOC, including coatings, dilution solvents, and cleaning solvents, per twelve (12) consecutive month period.

D.4.2 New Source Toxics Control [326 IAC 2-4.1-1]

(a) The input VOC is limited to less than 25.0 tons per year. Therefore, the source will not emit ten (10) tons per year of a single HAP or twenty-five (25) tons per year of any combination of HAPs. Thus, the requirements of 326 IAC 2-4.1-1 will not apply.

(b) Any change or modification that increases HAP emissions to greater than ten (10) tons per year and or twenty-five (25) tons per year must receive prior approval from OAM, IDEM.

D.4.3 Particulate Matter (PM) [326 IAC 6-3-2(c)]

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) overspray from the spray booths shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The source will be in compliance with the requirement by using air filters at all times when the spray booths are in operation to control overspray emissions.

D.4.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

Compliance Determination Requirements

D.4.5 Testing Requirements [326 IAC 2-7-6(1)] [40CFR 63, Subpart JJ]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the VOC and PM limits specified in Conditions D.4.1, D.4.2 and D.4.3 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.4.6 Volatile Organic Compounds (VOC)

Compliance with the VOC usage limitation contained in Conditions D.4.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAM reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.4.7 VOC Emissions

Compliance with Condition D.4.1 shall be demonstrated at the end of each month based on the total volatile organic compound usage for the most recent month.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.4.8 Particulate Matter (PM)

The dry filters for PM control shall be in operation at all times when the surface coating is in operation.

D.4.9 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the spray booth stacks while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.4.10 Record Keeping Requirements

(a) To document compliance with Condition D.4.1, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.4.1

(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The cleanup solvent usage for each month;

(4) The total VOC usage for each month; and

(5) The weight of VOCs emitted for each compliance period.

(b) To document compliance with Condition D.4.9, the Permittee shall maintain a log of daily overspray observations, daily and weekly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.4.11 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.4.1(b) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.~~3~~**5** FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]
Section D.~~3~~**5** is for the following insignificant activities (all the activities are in Plant #1), as defined in 326 IAC 2-7-1(21):

(1) two (2) boilers in Building 5 each rated at 0.85 and 0.3 mmBtu/hr, ~~and~~ four (4) boilers in Building 22 each rated at 0.5 mmBtu/hr **and four (4) boilers, known as H1 through H4, rated at 0.15 million British thermal units per hour, each**;
(2) degreasing operations that do not exceed 145 gallons per 12 months;
(3) the following woodworking activities with particulate matter emissions equal to or below insignificant threshold of 5 pounds per hour:
  (a) one (1) cyclone dust collection system controlling two (2) chop saws and one (1) drill press in Building 3;
  (b) one (1) cyclone dust collection system controlling three (3) chop saws, one (1) table saw, two (2) routers, two (2) band saws, two (2) radial saws, one (1) shaper, one (1) belt sander, and one (1) drill press in Building 7;
  (c) one (1) cyclone and baghouse dust collection system controlling nine (9) chop saws, three (3) band saws, one (1) sander, and one (1) mitre saw in Building 9;
  (d) one (1) cyclone dust collection system controlling two (2) chop saws, one (1) radial arm saw, and one (1) band saw in Building 12;
  (e) one (1) cyclone and baghouse dust collection system controlling two (2) chop saws, one (1) radial arm saw, one (1) belt sander, one (1) grinder, one (1) router, one (1) drill press, one (1) band saw, and one (1) table saw in Building 22;
(4) the following welding activities, in Building 17, with particulate matter emissions equal to or below insignificant threshold of 5 pounds per hour:
  (a) five (5) stick welding stations using carbon electrodes with a maximum consumption rate of 15 electrodes per hour;
  (b) three (3) metal inert Gas (MIG) steel welding stations using carbon AWS A5.18 wire with a maximum consumption rate of 1.0 units per hour;
  (c) five (5) MIG aluminum welding stations using type ER 4043 (aluminum) wire with a maximum consumption rate of 1.25 units per hour.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.~~3~~**5**.1 Particulate Matter (PM) [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3 (Particulate Matter Emission Limitations for Sources of Indirect Heating**,** the PM emissions from the six (6) boilers in Building 5 and Building 22**, and the four (4) boilers known as H1-H4,** shall be limited to 0.6 pounds per million British thermal units heat input.

D.~~3~~**5**.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for Degreasers at the source shall:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a matter that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.~~3~~**5**.3 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for Degreasers at the source, Carriage, Inc. shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9^{O}C) (one hundred twenty degrees Fahrenheit (120^{O}F)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), for degreasers constructed after July 1, 1990, the owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

D.~~3~~**5**.4 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) emissions from woodworking and welding operations are limited as follows:

(a) the emissions from the woodworking operations in Buildings 3, 7, 9, 12 and 22 shall be limited to 0.55, 1.62, 2.58, 1.02 and 1.62 pounds per hour, respectively. The source will be in compliance with these limitations by operating dust collection system at all times when woodworking is in operation.

(b) the emissions from the welding activities in Building 17 shall be limited to 5.0 pounds per hour.

D.~~3~~**5**.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Determination Requirements

D.~~3~~**5**.6 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limits specified in Conditions D.~~3~~**5**.1 and D.~~3~~**5**.4 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.~~3~~**5**.7 Visible Emissions Notations

(a) Daily visible emission notations of the control device exhausts for woodworking operations in Buildings 3, 7, 9, 12 and 22 shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.~~3~~**5**.8 Record Keeping Requirements

(a) To document compliance with Condition D.~~3~~**5**.7, the Permittee shall maintain records of daily visible emission notations of the woodworking operations stack exhausts.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Carriage, Inc
Source Address: 210 Wabash Street, Millersburg, IN 46543
Mailing Address: P. O. Box 246, Millersburg, IN 46543
Part 70 Permit No.: T039-6326-00456
Facility: SC1, SC2 and SC3
Parameter: total VOC input
Limit: less than twenty-five (25) tons of VOC per twelve (12) consecutive month period

YEAR: _____

Month	VOC (tons)	VOC (tons)	VOC (tons)
	This Month	Previous 11 Months	12 Month Total

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 039-6326-000456.

Indiana Department of Environmental Management
Office of Air Management

Addendum to the Technical Support Document for a Significant Source Modification to a Part 70 Operating Permit

Source Name:	**Carriage, Inc.**
Source Location:	**210 Wabash Street, Millersburg, IN 46543**
County:	**Elkhart**
Operation Permit No.:	**T 039-6326-00456**
Significant Source Modification No.:	**SSM 039-11304-00456**
SIC Code:	**3792**
Permit Reviewer:	**Paula M. Miano**

On May 8, 2000, the Office of Air Management (OAM) had a notice published in the Elkhart Truth, Elkhart, Indiana, stating that Carriage, Inc. had applied for a Significant Source Modification to a Part 70 Operating Permit to construct a woodworking and surface coating source with a cyclone and baghouse connected in series for particulate matter control. The notice also stated that OAM proposed to issue a Significant Source Modification and provided information on how the public could review the proposed Significant Source Modification and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this Significant Source Modification to a Part 70 Operating Permit should be issued as proposed.

Upon further review, the OAM has decided to make the following change to the Significant Source Modification to a Part 70 Operating Permit: The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded)**:

The reference to 40CFR 63, Subpart JJ has been removed from Condition D.4.5 as follows since this subpart does not apply to this modification.

D.4.5 Testing Requirements [326 IAC 2-7-6(1)] ~~[40CFR 63, Subpart JJ]~~

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the VOC and PM limits specified in Conditions D.4.1, D.4.2 and D.4.3 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Appendix A: Potential Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: Carriage, Inc.
Address City IN Zip: 210 Wabash Street, Millersburg, Indiana 46543
SSM: 039-11304
Plt ID: 039-00456
Reviewer: Paula M. Miano
Date Received: December 28, 1999

Material	Density (lb/gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential tons per year	lb VOC /gal solids	Transfer Efficiency
BOOTHSC1																
Honey Spice Stain #41																
S64N37	9.65	42.5%	0.3%	42.2%	0.4%	57.5%	0.00018	44.05	4.09	4.07	0.03	0.78	0.14	0.05	7.08	75%
S64Y32	9.77	42.6%	0.3%	42.3%	0.4%	36.9%	0.00018	44.05	4.15	4.13	0.03	0.79	0.14	0.05	11.20	75%
S64B30	7.67	57.6%	0.4%	42.3%	0.4%	32.9%	0.00002	44.05	3.26	3.24	0.00	0.05	0.01	0.00	9.86	75%
S64N44	7.10	60.0%	0.0%	60.0%	0.0%	33.0%	0.00007	44.05	4.26	4.26	0.01	0.33	0.06	0.01	12.91	75%
S-W R1K3	6.20	100.0%	0.0%	100.0%	0.0%	0.0%	0.00377	44.05	6.20	6.20	1.03	24.74	4.52	0.00	n/a	75%
H-562-D	7.01	100.0%	0.0%	100.0%	0.0%	0.0%	0.00377	44.05	7.01	7.01	1.17	27.96	5.10	0.00	n/a	75%
Ready to Spray	**6.75**	**95.8%**	**0.02%**	**95.8%**	**0.03%**	**2.5%**	**0.00800**	**44.05**	**6.47**	**6.46**	**2.28**	**54.67**	**9.98**	**0.11**	**257.99**	**75%**
WS 4053 Bleached Oak	8.00	82.1%	0.0%	82.1%	0.0%	9.4%	0.00800	44.05	6.57	6.57	2.31	55.55	10.14	0.55	69.66	75%
BOOTH SC2																
Topcoat																
S-W T77HXF3972-1944	7.51	75.4%	19.6%	55.8%	22.3%	17.2%	0.03205	44.05	5.39	4.19	5.92	141.98	25.91	2.86	24.36	75%
*Acetone (R6K9)	6.59	100.0%	0.0%	100.0%	0.0%	0.0%	0.00801	44.05	6.59	6.59	2.33	55.82	10.19	0.00	n/a	75%
							0.04006									
BOOTH SC3																
Sealer																
Clear T67HXF3073-1944	7.57	69.2%	14.1%	55.1%	16.6%	22.7%	0.02564	44.05	5.00	4.17	4.71	113.06	20.63	2.88	18.37	75%
*Acetone (R6K9)	6.59	100.0%	0.0%	100.0%	0.0%	0.0%	0.00641	44.05	6.59	6.59	1.86	44.66	8.15	0.00	n/a	75%
							0.03205									
								Control	VOC	PM						
								Efficiency	0.00	95.0%						
State Potential Emissions										**Uncontrolled**	**15.2**	**365**	**66.7**	**6.40**		
										Controlled	**15.2**	**365**	**66.7**	**0.320**		

METHODOLOGY
*Acetone = Exempt
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Sum of all solvents used
RTS Density (lbs/gal) = ((Density(lb/gal)a * Gal of Material (gal/unit)a) + (Density(lb/gal)b * Gal of Material (gal/unit)b)) / (Gal of material (gal/unit)a + Gal of Material (gal/unit)b)
RTS Weight % H2O + Organics = ((Weight % Organics + H2O)a * Density (lb/gal)a * Gal of Material (gal/unit)a) + ((Weight % Organics + H2O)b * Density (lb/gal)b * Gal of Material (gal/unit)b) / ((Density (lb/gal)a * Gal of Material (gal/unit)a)+(Density (lb/gal)b * Gal of Material (gal/unit)b))

Appendix A: Emission Calculations
HAP Emission Calculations

Company Name: Carriage Inc.
Address City IN Zip: 210 Wabash St. Millersburg, Indiana 465543
CP: 039-11304
Plt ID: 039-00456
Reviewer: Paula M. Miano
Date: December 28, 1999

Material	Density (lbs/gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % Formaldehyde	Weight % MEK	Weight % MIBK	Weight % Glycol Ethers	Weight % Methanol	Xylene Emissions (tons/yr)	Toluene Emissions (tons/yr)	Formaldehyde Emissions (tons/yr)	Benzene Emissions (tons/yr)	Hexane Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)	Methanol Emissions (tons/yr)
BOOTHSC1																	
Honey Spice Stain #41																	
S64N37	9.65	0.00018	44.05	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S64Y32	9.77	0.00018	44.05	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S64B30	7.67	0.00002	44.05	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S64N44	7.10	0.00007	44.05	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S-W R1K3	6.20	0.00377	44.05	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000	0.000	0.000
H-562-D	7.01	0.00377	44.05	0.00%	62.00%	0.00%	0.00%	14.00%	0.00%	14.00%	0.000	3.164	0.000	0.000	0.714	0.000	0.714
		0.00800															
WS 4053 Bleached Oak	8.00	0.00800	44.05	0.00%	10.26%	0.00%	0.00%	0.00%	12.95%	0.00%	0.000	1.267	0.000	0.000	0.000	1.599	0.000
BOOTH SC2																	
Topcoat																	
S-W T77HXF3972-1944	7.51	0.03205	44.05	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000	0.000	0.000
*Acetone (R6K9)	6.59	0.00801	44.05	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		0.04006															
BOOTH SC3																	
Sealer																	
Clear T67HXF3073-1944	7.57	0.02564	44.05	3.00%	6.00%	0.10%	11.00%	0.00%	0.00%	0.00%	1.123	2.247	0.037	4.119	0.000	0.000	0.000
*Acetone (R6K9)	6.59	0.00641	44.05	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.000	0.000	0.000	0.000
		0.03205															

	Xylene Emissions	Toluene Emissions	Formaldehyde Emissions	Benzene Emissions	Hexane Emissions	Glycol Ethers Emissions	Methanol Emissions
Total State Potential Emissions:	**1.12** (tons/yr)	**6.68** (tons/yr)	**0.037** (tons/yr)	**4.12** (tons/yr)	**0.714** (tons/yr)	**1.60** (tons/yr)	**0.714** (tons/yr)

Combined HAPs emissions = **15.0** (tons/yr)

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Sum of all solvents used

Appendix A: Emission Calculations
Baghouse Operations

Company Name: Carriage Inc.
Address City IN Zip: 210 Wabash St., Millersburg, Indiana46543
CP: 039-11304
Plt ID: 039-00456
Reviewer: Paula M. Miano
Date: December 28, 1999

Unit ID	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	Emission Rate before Controls (lb/hr)	Emission Rate before Controls (tons/yr)	Emission Rate after Controls (lb/hr)	Emission Rate after Controls (tons/yr)
C1	99.9%	0.002	11500.0	197	863	0.197	0.863

Methodology
Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (sq. ft.) ((cub. ft./min.)/sq. ft.) (60 min/hr) (lb/7000 grains)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)
Emission Rate in lbs/hr (before controls) = Emission Rate (after controls): (lbs/hr)/(1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Allowable Rate of Emissions

Process Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable Emissions (lbs/hr)	Allowable Emissions (tons/yr)
800	0.400	2.22	9.7

Methodology
Allowable Emissions = 4.10(Process Weight Rate)^0.67